

AMENDMENTS TO THE DRAWINGS

The attached replacement drawing sheet includes amendments to FIG. 1.

The attached sheet replaces the originally filed sheet containing FIG. 1.

Attachment: Replacement sheet containing FIG. 1.

REMARKS

Claims 1, 16, 21 and 23-44 have been amended. Claims 1-44 remain pending in the present application. Applicant reserves the right to pursue the original and any other claims in this and other applications.

The drawings stand objected to based on certain informalities. Applicant has amended FIG. 1 to correct the stated informalities and has attached it hereto as a Replacement Sheet. In particular, the label "P#" has been changed to "D#" per the Examiner's request. Additionally, the abstract and the disclosure stand objected to based on certain informalities. Applicant has amended the abstract and the specification as suggested by the Office Action. Accordingly, Applicants respectfully request that the objections be reconsidered and withdrawn.

Claims 1, 23 and 44 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The rejection is respectfully traversed.

Applicant respectfully submits that the specification does support the subject matter contained in the claims. The claimed invention relates to a CAM test that detects defective pull down lines. As stated by the Office Action, the disclosure along with FIG. 5 describes a CAM data full of all 1's, and a search key of a walking-1 pattern. However, contrary to the statements of the Office Action, in light of the disclosure one of ordinary skill would also be enabled to test for a defective pull-down line. It would have been known by one of ordinary skill at the time of invention that if such a test was conducted on a CAM that it would cause a failure if the pull-down line fails to a no-match state. A "patent specification is written for a person of skill in the art, and such a person comes to the patent with the knowledge of what comes before." *LizardTech, Inc. v. Earth Resources Mapping, Inc.*, No. 05-1062, 2005 U.S. App. LEXIS 21434 (Fed. Cir.

2005) at *27. “Placed in that context, it is unnecessary to spell out every detail of the invention in the specification; only enough must be included to convince a person of skill in the art that the inventor possessed the invention and to enable such a person to make and use the invention without undue experimentation.” *Id.* Here, the inventor has provided such detail in the specification. In any event, the claims have been amended to more clearly describe the claimed inventions. Accordingly, Applicant respectfully requests that the rejection be withdrawn and the claims allowed.

Claims 16 and 37 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claims the subject matter which applicant regards as the invention. Claims 21 and 42 also stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claims the subject matter which applicant regards as the invention. Applicant has amended the claims to address the concerns of the Office Action. Accordingly, Applicant respectfully requests that the rejection be withdrawn and the claims allowed.

Claims 1, 2, 4-18 and 44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhao (Testing SRAM-based Content Addressable Memories) (“Zhao”) in view of Zhao (U.S. Patent No. 6,496,950) (“the ‘950 patent), and further in view of Patel (Circuits for Low Power Traffic Encoding). Claims 19-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhao in view of the ‘950 patent and Patel, and further in view of Wright (Transistor-Level Fault Analysis and Test Algorithm Development for Ternary Dynamic Content Addressable Memories). Claims 3 and 23-39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaginele (U.S. Publication No. 2005/0050408), in view of Zhao, the ‘950 patent and Patel. Claims 40-43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over

Kaginele, Zhao, the '950 patent and Patel, and in further view of Wright. The rejections are respectfully traversed.

Applicant respectfully submits that it is improper to combine the references in the manner suggested by the Office Action. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found in the references themselves. In re Fine, 837 F.2d 1071, 5 USPQ.2d 1596 (Fed. Cir. 1988). There is no suggestion or motivation in any of the references of the cited combinations for combining them to arrive at the claimed invention. The Office Action is using impermissible hindsight by using the claims of the present invention as a road map to improperly combine the references. See Ex part Clapp, 227 U.S.P.Q. 972, 973 (Bd. App. 1985); M.P.E.P. §2144. For this reason alone, the rejection should be withdrawn.

Moreover, M.P.E.P. §2143 delineates the three criteria for establishing a *prima facie* case of obviousness as: 1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the prior art reference (or references when combined) must teach or suggest all the claim limitations. The Office Action has failed to make a *prima facie* case of obviousness under this M.P.E.P. provision. None of the cited references contains a suggestion or a motivation for their combination. None of the references sets forth a reasonable expectation of success in their combination. The Office Action does not identify where a suggestion to combine the references exists or why a reasonable expectation of success of combining the references exists. Rather, information contained in the current application is impermissibly used, in hindsight, to pick and choose features of the references to combine to arrive at the present invention.

Claim 1 recites a method for testing a plurality of content addressable memory (CAM) cells in a CAM device comprising the steps of “(a) testing said CAM device to identify stuck match lines by conducting a match line test to a given match line; [and] (b) testing [the] CAM device to identify defective pull down lines using a match pattern across the identified stuck match lines.” Claims 23 and 44 recite similar limitations. Applicants respectfully submit that none of the cited references, Zhao, the ‘950 patent, Patel, Kaginele or Wright, whether considered alone or in any combination, teach or suggest the claimed invention.

Zhao generally refers to an algorithm designed to detect faults in SRAM-based CAMs. In particular, Zhao discloses how to detect faults in a storage part using one technique and a comparison part using another technique. Neither of which are the method of the claimed invention. The ‘950 patent refers to a device that provides testing procedures that detect storage faults, comparison faults and combination storage/comparison faults. The ‘950 patent specifically discloses a series of read and write operations that are performed on each memory word and may conform to standard algorithm test sequences. Patel refers to a circuit that reduces the energy consumed in buses on a single die. Kaginele refers to a test for memory devices in which a signal is provided if a set of memory cells store items of data that satisfy a criterion and Wright simply refers to a mask register being associated with a transistor.

The claimed invention, on the other hand, relates to a method for testing a CAM device that includes a match line test to identify stuck match lines, followed by a walking “1” pattern across the columns to identify weak (*i.e.*, defective) pull downs (from the match line to ground), and is followed by a row-by-row match test. In other words, the claimed invention recites a method for testing a plurality of content addressable memory (CAM) cells in a CAM device comprising the steps of “(a) testing said CAM device to identify stuck match lines by conducting a match line test to a

given match line; [and] (b) testing [the] CAM device to identify defective pull down lines using a match pattern across the identified stuck match lines.” Accordingly, the claimed invention achieves a more efficient method of testing CAM cells in a CAM device and identifying which component of a defective CAM cell failed.

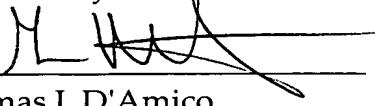
Applicant respectfully submits the cited references do not teach or suggest all limitations of the claim 1, 23 and 44 invention. Moreover, it would not have been obvious to one of ordinary skill in the art at the time of invention to achieve the claimed invention by combining the limited teachings of the cited references. There is simply no motivation in the cited references to achieve a method of testing CAM cells and identifying which component of a defective CAM cell failed in the manner claimed in the present application. Claims 2-22 depend from claim 1 and should be allowable along with claim 1. Claims 24-41 depend from claim 23 and should be allowable along with claim 23.

Accordingly, Applicant respectfully requests that the rejections be withdrawn and claims 1-44 be allowed.

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Dated: June 29, 2006

Respectfully submitted,

By 
Thomas J. D'Amico

Registration No.: 28,371

Gianni Minutoli

Registration No.: 41,198

DICKSTEIN SHAPIRO MORIN &
OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorney for Applicant